Idaho Department of Fish and Game
October - December 2005

Kootenai River Fisheries Recovery Investigations

Technical Quarterly Progress Report and Summary of Activities

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Field Work Completed or in Progress and Summary of Results

Burbot

The first hoop nets to sample burbot were set on October 28, 2005. Four nets were deployed at Ambush Rock (rkm 244.5). Two nets were deployed at Nick's Island (rkm 144.5), one at the mouth of Corn Creek (rkm 150), two just downstream of the Creston boat ramp (rkm 150.5), and two nets were deployed downstream of the Goat River (rkm 152.7). Two nets were set in the Goat River and two in Boundary Creek. Total effort was 827 net days, 21 hours and 21 minutes. CPUE for the fourth quarter of 2005 was 0.007247, based on a 24 hour day as one unit of effort (Table 1).

Since October six burbot have been captured of which five were captured at Nick's Island (rkm 144.5) while the sixth was captured at Ambush Rock (rkm 244.5). Half of the burbot were recaptures. Vemco tags were implanted in three burbot (Figure 1), two of which were recaptures from previous years; all were tagged and released at Nick's Island. One burbot caught at Ambush Rock was a recapture from 2005 it has gained 16 mm in length and 148 grams in weight.

Three of our nets in British Columbia appeared to get snagged up after discharge from Libby had been ramped up to about 566 m^3/s. Divers were deployed on December 19 to attempt retrieval of two hung nets near Creston. They were unsuccessful; the nets were half covered in silt and hung on a log. There weren't any fish in the nets that could be seen by the diver. But as soon as discharge comes down in January 06 the divers will return and we will use devices to float the nets out of the silt.

Vemco receivers were placed in the Goat River and in Boundary Creek with the intention of tracking tagged burbot.

Table 1. Total effort from 10/28/05-12/31/05.

Net days/effort	
Total net days	827.89
Total Catch	67
Total CPUE	0.080929
Burbot Catch	6
Burbot CPUE	0.007247

Figure 1. Skillful hands of a surgeon implanting a VEMCO sonic transmitter in a burbot.

White Sturgeon

White sturgeon recovery investigations during this period focused on annual report writing, analyzing data, and preparing presentations. Other office activities included completing Bonneville Power Administration budget solicitation for the 2007 - 2010 funding cycle.

Preliminary analysis of white sturgeon movement histories: Since August 2003 to September 2005, 29 adult white sturgeon have been tagged with Vemco sonic transmitters. Twenty-two of these fish were available to be monitored during spring migration in 2004 or 2005. Six of the 22 were tagged below staging areas or on the Kootenai River delta and showed no annual upstream migration behavior. Fourteen of the 16 that appeared to make a spawning migration were located upstream as far as Shorty's Island (rkm 228.4). Nine of those 14 (64%) continued upstream as far as Ambush Rock (rkm 243.5), and six of these nine (43%) continued upstream as far as the Hwy 95 bridge (rkm 245.7) near Bonners Ferry (Figure 2). No white sturgeon were recorded on the receiver at rkm 248.0. Habitat enhancement projects are being planned for the area near or upstream of rkm 245.7. Passive telemetry techniques have shown that white sturgeon do use these areas near Bonners Ferry during spring and fall, and detailed receiver analysis has shown that although not documented, some white sturgeon have had opportunities to go upstream of Bonners Ferry into the lower end of the braided reach (between rkms 245.7 and 248).

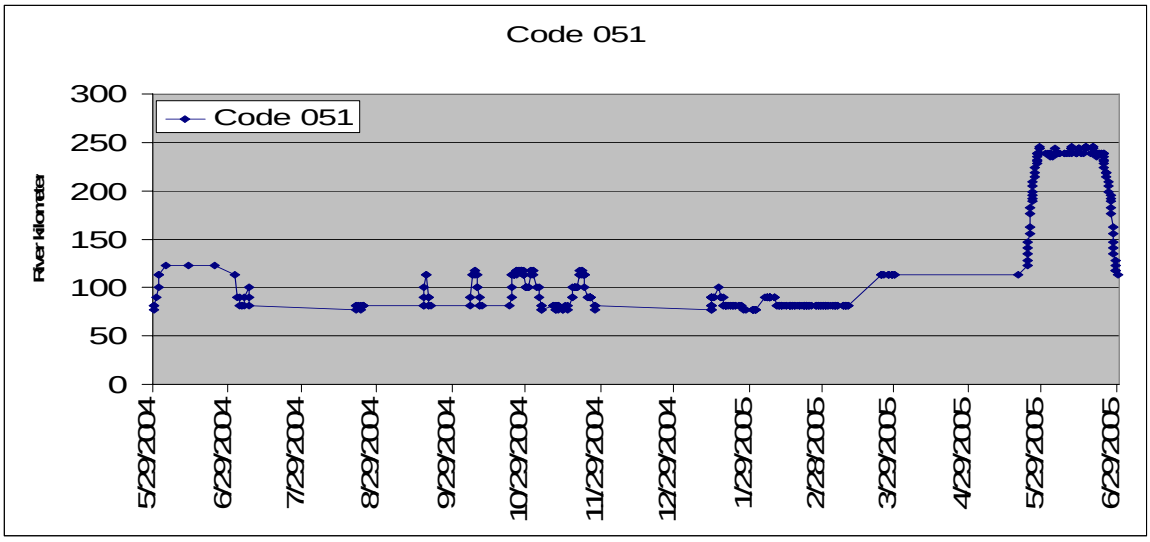

Figure 2. Movement history of female white sturgeon from May 2004 to July 2005. This fish was captured August 8, 2003 in Duncan reservoir and released the same day in Kootenay Lake near the mouth of the Lardeau River (rkm 18).

Nutrient restoration

Following Phosphorus additions in Late September, the first two weeks of October were spent offloading excess nitrogen to an inland storage facility, performing intense clean up of the tanks, and winterizing sensitive flow equipment. Mid-October, a 50'x 50' pole building was constructed over the tanks (Figure 3) in order to reduce snow and ice covering and damaging pipes, as well reducing viscosity changes in the fertilizer influenced by direct sunlight on the product.

November 6, the IKERT subcommittee held a meeting at the Kootenai River in to discuss year end results and form plans and improvements for the following application season. During this meeting it was agreed upon that immunological work should be done in Lake Koocanusa to shed light on what is causing the wide fluctuation in Nitrogen levels from year to year.

Late November, plans were made with Chapel Fence Co. in Troy, MT to construct a chain link fence with blind inserts all the way around the site. Construction on the fence has been delayed for a number of reasons, however the fence project is scheduled for completion January 8, 2006.

The majority of December was spent on preparing the 2007-2009 project proposal for BPA funding which is due January 10, 2006. Additionally, data analysis and report writing have filled in most of the time this quarter.

Currently we are also trying to get the full NPDES permit from EPA to continue our applications. This permit has been requested back in 2004 and is taking longer than expected to be obtained. In the meantime, IDEQ has been contacted to determine if it is feasible to obtain an additional short term activity exemption for this coming season while waiting for the EPA's permit. A decision should be given on this matter in January of 2006.

Figure 3. 50’ x 50’ pole building build over nutrient holding tanks in October 2005 to reduce snow damage and viscosity changes in nutrients in summer months.

Rainbow and Bull Trout

Meetings Held/Attended, Communication, and Accomplishments for the Quarter:

- Pete completed white sturgeon section of BPA budget solicitation
- Pete met with USFWS to summarize white sturgeon movements in 2005
- Pete met with British Columbia biologists for a white sturgeon spawning site visit on the Nechacko River near Vander hoof, BC.
- Pete participated on conference calls with WSRT
- Pete and Vaughn participated in several Kootenai River White Sturgeon Recovery Team (KRWSRT) conference calls and meetings and gave program updates.
- Vaughn had one news interview
- Ryan has had many phone meetings with Charlie Holderman of KTOI to coordinate his project.
- Ryan and Vaughn and Charlie Holderman of KTOI met again with IKERT to discuss 2005 data for nutrient restoration and plan for 2006
- Vaughn held two seminars one at University of Idaho and a second at Gonzaga University, overviews of Kootenai River Research
- Jody and Vaughn each had senior authored two publications in Northwest Science; Recruitment of rainbow trout to the Kootenai River and Differences in tag shedding of single vs. dual tagging of white sturgeon.

Next Quarter Activities and Meetings:

White sturgeon

- Data analysis of depth sensitive radio telemetry research 2002 and 2003
- Send 2005 annual report out for review
- Data analysis of 2005 telemetry data
- Prepare presentations and data summaries for Recovery Team
- Begin and complete 2006 work plan
- Download and maintain Vemco receiver array
- Order field equipment and hire staff
- Present research findings at ICAFS in February
- Begin sampling adult white sturgeon in February or March

Rainbow and Bull Trout

Burbot

- Send the 05 annual report out for review
- Continue coordinating with the University of Idaho on burbot DNA analysis
- Continue hoopnet sampling of burbot
- Work with the KVRI Burbot Committee
- Prepare presentation for Idaho Chapter AFS meeting

Ecosystem Rehabilitation

- Conference call with IKERT subcommittee on January 6 to determine best means for reservoir limnological study in 2007.
- Biologist Training in Boise on January 23rd-25th.
- ArcView GIS training in Coeur d'Alene January 30-Feb3rd.
- AFS meeting in Idaho Falls on Feb 13th-17th.

Cc. Lee Watts & Scott Bettin (BPA)
Sue Ireland (KTOI)
Colin Spence (BC Fisheries)
Brian Marotz (MFWP, Kalispell)
Gary Barton (USGS)
Jeff Laufle & Greg Hoffman (USACE)
Steve Duke, Bob Hallock (USFWS)
Virgil Moore, Steve Yundt, Ned Horner, Chip Corsi, Greg Johnson, Fred Partridge, (IDFG)
Boundary County Commissioners